# RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.**

Application Serial Number: 09/990,046A
Source: IFW16
Date Processed by STIC: 3/28/05

# *ENTERED*

IFW16

**RAW SEQUENCE LISTING** DATE: 03/28/2005
PATENT APPLICATION: **US/09/990,046A** TIME: 09:11:50

Input Set : **A:\P1405R1C1.txt**
Output Set: **N:\CRF4\03282005\I990046A.raw**

```
     3 <110> APPLICANT: de Sauvage, Frederic
     4       Carpenter, David A.
     6 <120> TITLE OF INVENTION: Patched-2 Antibodies
     8 <130> FILE REFERENCE: P1405R1C1
C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/990,046A
C--> 11 <141> CURRENT FILING DATE: 2001-11-20
    13 <150> PRIOR APPLICATION NUMBER: US 60/081,884
    14 <151> PRIOR FILING DATE: 1998-04-15
    16 <160> NUMBER OF SEQ ID NOS: 24
    18 <210> SEQ ID NO: 1
    19 <211> LENGTH: 4030
    20 <212> TYPE: DNA
    21 <213> ORGANISM: Homo sapiens
    23 <400> SEQUENCE: 1
    24  gttatttcag gccatggtgt tgcgccgaat taattcccga tccagacatg 50
    26  ataagataca ttgatgagtt tggacaaacc acaactagaa tgcagtgaaa 100
    28  aaaatgcttt atttgtgaaa tttgtgatgc tattgcttta tttgtaacca 150
    30  ttataagctg caataaacaa gttgggccat ggcggccaag cttctgcagg 200
    32  tcgactctag aggatccccg gggaattccg gcatgactcg atcgccgccc 250
    34  ctcagagagc tgcccccgag ttacacaccc ccagctcgaa ccgcagcacc 300
    36  ccagatccta gctgggagcc tgaaggctcc actctggctt cgtgcttact 350
    38  tccagggcct gctcttctct ctgggatgcg ggatccagag acattgtggc 400
    40  aaagtgctct ttctgggact gttggccttt ggggccctgg cattaggtct 450
    42  ccgcatggcc attattgaga caaacttgga acagctctgg gtagaagtgg 500
    44  gcagccgggt gagccaggag ctgcattaca ccaaggagaa gctgggggag 550
    46  gaggctgcat acacctctca gatgctgata cagaccgcac gccaggaggg 600
    48  agagaacatc ctcacacccg aagcacttgg cctccacctc caggcagccc 650
    50  tcactgccag taaagtccaa gtatcactct atgggaagtc ctgggatttg 700
    52  aacaaaatct gctacaagtc aggagttccc cttattgaaa atggaatgat 750
    54  tgagtggatg attgagaagc tgtttccgtg cgtgatcctc acccccctcg 800
    56  actgcttctg ggagggagcc aaactccaag ggggctccgc ctacctgccc 850
    58  ggccgcccgg atatccagtg gaccaacctg gatccagagc agctgctgga 900
    60  ggagctgggt ccctttgcct cccttgaggg cttccgggag ctgctagaca 950
    62  aggcacaggt gggccaggcc tacgtggggc ggccctgtct gcaccctgat 1000
    64  gacctccact gcccacctag tgcccccaac catcacagca ggcaggctcc 1050
    66  caatgtggct cacgagctga gtgggggctg ccatggcttc tcccacaaat 1100
    68  tcatgcactg gcaggaggaa ttgctgctgg gaggcatggc cagagacccc 1150
    70  caaggagagc tgctgagggc agaggccctg cagagcacct tcttgctgat 1200
    72  gagtccccgc cagctgtacg agcatttccg gggtgactat cagacacatg 1250
    74  acattggctg gagtgaggag caggccagca cagtgctaca agcctggcag 1300
    76  cggcgctttg tgcagctggc ccaggaggcc ctgcctgaga acgcttccca 1350
    78  gcagatccat gccttctcct ccaccaccct ggatgacatc ctgcatgcgt 1400
    80  tctctgaagt cagtgctgcc cgtgtggtgg gaggctatct gctcatgctg 1450
```

p.6

**RAW SEQUENCE LISTING** DATE: 03/28/2005
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Input Set : **A:\P1405R1C1.txt**
Output Set: **N:\CRF4\03282005\I990046A.raw**

82 gcctatgcct gtgtgaccat gctgcggtgg gactgcgccc agtcccaggg 1500
84 ttccgtgggc cttgccgggg tactgctggt ggccctggcg gtggcctcag 1550
86 gccttgggct ctgtgccctg ctcggcatca ccttcaatgc tgccactacc 1600
88 caggtgctgc ctttcttggc tctgggaatc ggcgtggatg acgtattcct 1650
90 gctggcgcat gccttcacag aggctctgcc tggcacccct ctccaggagc 1700
92 gcatgggcga gtgtctgcag cgcacgggca ccagtgtcgt actcacatcc 1750
94 atcaacaaca tggccgcctt cctcatggct gccctcgttc ccatccctgc 1800
96 gctgcgagcc ttctccctac aggcggccat agtggttggc tgcacctttg 1850
98 tagccgtgat gcttgtcttc ccagccatcc tcagcctgga cctacggcgg 1900
100 cgccactgcc agcgccttga tgtgctctgc tgcttctcca gtccctgctc 1950
102 tgctcaggtg attcagatcc tgccccagga gctgggggac gggacagtac 2000
104 cagtgggcat tgcccacctc actgccacag ttcaagcctt tacccactgt 2050
106 gaagccagca gccagcatgt ggtcaccatc ctgcctcccc aagcccacct 2100
108 ggtgccccca ccttctgacc cactgggctc tgagctcttc agccctggag 2150
110 ggtccacacg ggaccttcta ggccaggagg aggagacaag gcagaaggca 2200
112 gcctgcaagt ccctgccctg tgcccgctgg aatcttgccc atttcgcccg 2250
114 ctatcagttt gccccgttgc tgctccagtc acatgccaag gccatcgtgc 2300
116 tggtgctctt tggtgctctt ctgggcctga gcctctacgg agccaccttg 2350
118 gtgcaagacg gcctggccct gacggatgtg gtgcctcggg gcaccaagga 2400
120 gcatgccttc ctgagcgccc agctcaggta cttctccctg tacgaggtgg 2450
122 ccctggtgac ccagggtggc tttgactacg cccattccca acgcgccctc 2500
124 tttgatctgc accagcgctt cagttccctc aaggcggtgc tgcccccacc 2550
126 ggccacccag gcaccccgca cctggctgca ctattaccgc aactggctac 2600
128 agggaatcca ggctgccttt gaccaggact gggcttctgg gcgcatcacc 2650
130 cgccactcgt accgcaatgg ctctgaggat ggggccctgg cctacaagct 2700
132 gctcatccag actggagacg cccaggagcc tctggatttc agccagctga 2750
134 ccacaaggaa gctggtggac agagagggac tgattccacc cgagctcttc 2800
136 tacatggggc tgaccgtgtg ggtgagcagt gacccccctgg gtctggcagc 2850
138 ctcacaggcc aacttctacc ccccacctcc tgaatggctg cacgacaaat 2900
140 acgacaccac gggggagaac cttcgcatcc cgccagctca gcccttggag 2950
142 tttgcccagt tccccttcct gctgcgtggc ctccagaaga ctgcagactt 3000
144 tgtggaggcc atcgaggggg cccgggcagc atgcgcagag gccggccagg 3050
146 ctggggtgca cgcctacccc agcggctccc ccttcctctt ctgggaacag 3100
148 tatctgggcc tgcggcgctg cttcctgctg gccgtctgca tcctgctggt 3150
150 gtgcactttc ctcgtctgtg ctctgctgct cctcaacccc tggacggctg 3200
152 gcctcatagt gctggtcctg gcgatgatga cagtggaact ctttggtatc 3250
154 atgggtttcc tgggcatcaa gctgagtgcc atccccgtgg tgatccttgt 3300
156 ggcctctgta ggcattggcg ttgagttcac agtccacgtg gctctgggct 3350
158 tcctgaccac ccagggcagc cggaacctgc gggccgccca tgcccttgag 3400
160 cacacatttg cccccgtgac cgatggggcc atctccacat tgctgggtct 3450
162 gctcatgctt gctggttccc actttgactt cattgtaagg tacttctttg 3500
164 cggcgctgac agtgctcacg ctcctgggcc tcctccatgg actcgtgctg 3550
166 ctgcctgtgc tgctgtccat cctgggcccg ccgccagagg tgatacagat 3600
168 gtacaaggaa agcccagaga tcctgagtcc accagctcca cagggaggcg 3650
170 ggcttaggtg gggggcatcc tcctccctgc cccagagctt tgccagagtg 3700
172 actacctcca tgaccgtggc catccaccca ccccccctgc ctggtgccta 3750
174 catccatcca gcccctgatg agccccccttg gtcccctgct gccactagct 3800
176 ctggcaacct cagttccagg ggaccaggtc cagccactgg gtgaaagagc 3850
178 agctgaagca cagagaccat gtgtggggcg tgtggggtca ctgggaagca 3900

**RAW SEQUENCE LISTING** DATE: 03/28/2005
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Input Set : **A:\P1405R1C1.txt**
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ctgggtctgg tgttagacgc aggacggacc cctggagggc cctgctgctg 3950
ctgcatcccc tctcccgacc cagctgtcat gggcctccct gatatcgaat 4000
tcaatcgata gaaccgaggt gcagttggac 4030

<210> SEQ ID NO: 2
<211> LENGTH: 1203
<212> TYPE: PRT
<213> ORGANISM: Homo sapiens

<400> SEQUENCE: 2

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Met | Thr | Arg | Ser | Pro | Pro | Leu | Arg | Glu | Leu | Pro | Pro | Ser | Tyr | Thr | |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Pro | Pro | Ala | Arg | Thr | Ala | Ala | Pro | Gln | Ile | Leu | Ala | Gly | Ser | Leu | |
| | | | | 20 | | | | 25 | | | | | | 30 | |
| Lys | Ala | Pro | Leu | Trp | Leu | Arg | Ala | Tyr | Phe | Gln | Gly | Leu | Leu | Phe | |
| | | | | 35 | | | | 40 | | | | | | 45 | |
| Ser | Leu | Gly | Cys | Gly | Ile | Gln | Arg | His | Cys | Gly | Lys | Val | Leu | Phe | |
| | | | | 50 | | | | 55 | | | | | | 60 | |
| Leu | Gly | Leu | Leu | Ala | Phe | Gly | Ala | Leu | Ala | Leu | Gly | Leu | Arg | Met | |
| | | | | 65 | | | | 70 | | | | | | 75 | |
| Ala | Ile | Ile | Glu | Thr | Asn | Leu | Glu | Gln | Leu | Trp | Val | Glu | Val | Gly | |
| | | | | 80 | | | | 85 | | | | | | 90 | |
| Ser | Arg | Val | Ser | Gln | Glu | Leu | His | Tyr | Thr | Lys | Glu | Lys | Leu | Gly | |
| | | | | 95 | | | | 100 | | | | | | 105 | |
| Glu | Glu | Ala | Ala | Tyr | Thr | Ser | Gln | Met | Leu | Ile | Gln | Thr | Ala | Arg | |
| | | | | 110 | | | | 115 | | | | | | 120 | |
| Gln | Glu | Gly | Glu | Asn | Ile | Leu | Thr | Pro | Glu | Ala | Leu | Gly | Leu | His | |
| | | | | 125 | | | | 130 | | | | | | 135 | |
| Leu | Gln | Ala | Ala | Leu | Thr | Ala | Ser | Lys | Val | Gln | Val | Ser | Leu | Tyr | |
| | | | | 140 | | | | 145 | | | | | | 150 | |
| Gly | Lys | Ser | Trp | Asp | Leu | Asn | Lys | Ile | Cys | Tyr | Lys | Ser | Gly | Val | |
| | | | | 155 | | | | 160 | | | | | | 165 | |
| Pro | Leu | Ile | Glu | Asn | Gly | Met | Ile | Glu | Trp | Met | Ile | Glu | Lys | Leu | |
| | | | | 170 | | | | 175 | | | | | | 180 | |
| Phe | Pro | Cys | Val | Ile | Leu | Thr | Pro | Leu | Asp | Cys | Phe | Trp | Glu | Gly | |
| | | | | 185 | | | | 190 | | | | | | 195 | |
| Ala | Lys | Leu | Gln | Gly | Gly | Ser | Ala | Tyr | Leu | Pro | Gly | Arg | Pro | Asp | |
| | | | | 200 | | | | 205 | | | | | | 210 | |
| Ile | Gln | Trp | Thr | Asn | Leu | Asp | Pro | Glu | Gln | Leu | Leu | Glu | Glu | Leu | |
| | | | | 215 | | | | 220 | | | | | | 225 | |
| Gly | Pro | Phe | Ala | Ser | Leu | Glu | Gly | Phe | Arg | Glu | Leu | Leu | Asp | Lys | |
| | | | | 230 | | | | 235 | | | | | | 240 | |
| Ala | Gln | Val | Gly | Gln | Ala | Tyr | Val | Gly | Arg | Pro | Cys | Leu | His | Pro | |
| | | | | 245 | | | | 250 | | | | | | 255 | |
| Asp | Asp | Leu | His | Cys | Pro | Pro | Ser | Ala | Pro | Asn | His | His | Ser | Arg | |
| | | | | 260 | | | | 265 | | | | | | 270 | |
| Gln | Ala | Pro | Asn | Val | Ala | His | Glu | Leu | Ser | Gly | Gly | Cys | His | Gly | |
| | | | | 275 | | | | 280 | | | | | | 285 | |
| Phe | Ser | His | Lys | Phe | Met | His | Trp | Gln | Glu | Glu | Leu | Leu | Leu | Gly | |
| | | | | 290 | | | | 295 | | | | | | 300 | |
| Gly | Met | Ala | Arg | Asp | Pro | Gln | Gly | Glu | Leu | Leu | Arg | Ala | Glu | Ala | |

**RAW SEQUENCE LISTING** DATE: 03/28/2005
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Input Set : **A:\P1405R1C1.txt**
Output Set: **N:\CRF4\03282005\I990046A.raw**

```
253                 305                 310                 315
255  Leu Gln Ser Thr Phe Leu Leu Met Ser Pro Arg Gln Leu Tyr Glu
256                 320                 325                 330
258  His Phe Arg Gly Asp Tyr Gln Thr His Asp Ile Gly Trp Ser Glu
259                 335                 340                 345
261  Glu Gln Ala Ser Thr Val Leu Gln Ala Trp Gln Arg Arg Phe Val
262                 350                 355                 360
264  Gln Leu Ala Gln Glu Ala Leu Pro Glu Asn Ala Ser Gln Gln Ile
265                 365                 370                 375
267  His Ala Phe Ser Ser Thr Thr Leu Asp Asp Ile Leu His Ala Phe
268                 380                 385                 390
270  Ser Glu Val Ser Ala Ala Arg Val Val Gly Gly Tyr Leu Leu Met
271                 395                 400                 405
273  Leu Ala Tyr Ala Cys Val Thr Met Leu Arg Trp Asp Cys Ala Gln
274                 410                 415                 420
276  Ser Gln Gly Ser Val Gly Leu Ala Gly Val Leu Leu Val Ala Leu
277                 425                 430                 435
279  Ala Val Ala Ser Gly Leu Gly Leu Cys Ala Leu Leu Gly Ile Thr
280                 440                 445                 450
282  Phe Asn Ala Ala Thr Thr Gln Val Leu Pro Phe Leu Ala Leu Gly
283                 455                 460                 465
285  Ile Gly Val Asp Asp Val Phe Leu Leu Ala His Ala Phe Thr Glu
286                 470                 475                 480
288  Ala Leu Pro Gly Thr Pro Leu Gln Glu Arg Met Gly Glu Cys Leu
289                 485                 490                 495
291  Gln Arg Thr Gly Thr Ser Val Val Leu Thr Ser Ile Asn Asn Met
292                 500                 505                 510
294  Ala Ala Phe Leu Met Ala Ala Leu Val Pro Ile Pro Ala Leu Arg
295                 515                 520                 525
297  Ala Phe Ser Leu Gln Ala Ala Ile Val Val Gly Cys Thr Phe Val
298                 530                 535                 540
300  Ala Val Met Leu Val Phe Pro Ala Ile Leu Ser Leu Asp Leu Arg
301                 545                 550                 555
303  Arg Arg His Cys Gln Arg Leu Asp Val Leu Cys Cys Phe Ser Ser
304                 560                 565                 570
306  Pro Cys Ser Ala Gln Val Ile Gln Ile Leu Pro Gln Glu Leu Gly
307                 575                 580                 585
309  Asp Gly Thr Val Pro Val Gly Ile Ala His Leu Thr Ala Thr Val
310                 590                 595                 600
312  Gln Ala Phe Thr His Cys Glu Ala Ser Ser Gln His Val Val Thr
313                 605                 610                 615
315  Ile Leu Pro Pro Gln Ala His Leu Val Pro Pro Pro Ser Asp Pro
316                 620                 625                 630
318  Leu Gly Ser Glu Leu Phe Ser Pro Gly Gly Ser Thr Arg Asp Leu
319                 635                 640                 645
321  Leu Gly Gln Glu Glu Glu Thr Arg Gln Lys Ala Ala Cys Lys Ser
322                 650                 655                 660
324  Leu Pro Cys Ala Arg Trp Asn Leu Ala His Phe Ala Arg Tyr Gln
325                 665                 670                 675
```

**RAW SEQUENCE LISTING** DATE: 03/28/2005
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Input Set : **A:\P1405R1C1.txt**
Output Set: **N:\CRF4\03282005\I990046A.raw**

```
327  Phe Ala Pro Leu Leu Leu Gln Ser His Ala Lys Ala Ile Val Leu
328                  680                 685                 690
330  Val Leu Phe Gly Ala Leu Leu Gly Leu Ser Leu Tyr Gly Ala Thr
331                  695                 700                 705
333  Leu Val Gln Asp Gly Leu Ala Leu Thr Asp Val Val Pro Arg Gly
334                  710                 715                 720
336  Thr Lys Glu His Ala Phe Leu Ser Ala Gln Leu Arg Tyr Phe Ser
337                  725                 730                 735
339  Leu Tyr Glu Val Ala Leu Val Thr Gln Gly Gly Phe Asp Tyr Ala
340                  740                 745                 750
342  His Ser Gln Arg Ala Leu Phe Asp Leu His Gln Arg Phe Ser Ser
343                  755                 760                 765
345  Leu Lys Ala Val Leu Pro Pro Pro Ala Thr Gln Ala Pro Arg Thr
346                  770                 775                 780
348  Trp Leu His Tyr Tyr Arg Asn Trp Leu Gln Gly Ile Gln Ala Ala
349                  785                 790                 795
351  Phe Asp Gln Asp Trp Ala Ser Gly Arg Ile Thr Arg His Ser Tyr
352                  800                 805                 810
354  Arg Asn Gly Ser Glu Asp Gly Ala Leu Ala Tyr Lys Leu Leu Ile
355                  815                 820                 825
357  Gln Thr Gly Asp Ala Gln Glu Pro Leu Asp Phe Ser Gln Leu Thr
358                  830                 835                 840
360  Thr Arg Lys Leu Val Asp Arg Glu Gly Leu Ile Pro Pro Glu Leu
361                  845                 850                 855
363  Phe Tyr Met Gly Leu Thr Val Trp Val Ser Ser Asp Pro Leu Gly
364                  860                 865                 870
366  Leu Ala Ala Ser Gln Ala Asn Phe Tyr Pro Pro Pro Pro Glu Trp
367                  875                 880                 885
369  Leu His Asp Lys Tyr Asp Thr Thr Gly Glu Asn Leu Arg Ile Pro
370                  890                 895                 900
372  Pro Ala Gln Pro Leu Glu Phe Ala Gln Phe Pro Phe Leu Leu Arg
373                  905                 910                 915
375  Gly Leu Gln Lys Thr Ala Asp Phe Val Glu Ala Ile Glu Gly Ala
376                  920                 925                 930
378  Arg Ala Ala Cys Ala Glu Ala Gly Gln Ala Gly Val His Ala Tyr
379                  935                 940                 945
381  Pro Ser Gly Ser Pro Phe Leu Phe Trp Glu Gln Tyr Leu Gly Leu
382                  950                 955                 960
384  Arg Arg Cys Phe Leu Leu Ala Val Cys Ile Leu Leu Val Cys Thr
385                  965                 970                 975
387  Phe Leu Val Cys Ala Leu Leu Leu Leu Asn Pro Trp Thr Ala Gly
388                  980                 985                 990
390  Leu Ile Val Leu Val Leu Ala Met Met Thr Val Glu Leu Phe Gly
391                  995                1000                1005
393  Ile Met Gly Phe Leu Gly Ile Lys Leu Ser Ala Ile Pro Val Val
394                1010                1015                1020
396  Ile Leu Val Ala Ser Val Gly Ile Gly Val Glu Phe Thr Val His
397                1025                1030                1035
399  Val Ala Leu Gly Phe Leu Thr Thr Gln Gly Ser Arg Asn Leu Arg
```

**RAW SEQUENCE LISTING ERROR SUMMARY** DATE: 03/28/2005
PATENT APPLICATION: **US/09/990,046A** TIME: 09:11:51

Input Set : **A:\P1405R1C1.txt**
Output Set: **N:\CRF4\03282005\I990046A.raw**

**Please Note:**
**Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.**

Seq#:3; N Pos. 20,27,135,156,210
Seq#:4; N Pos. 143
Seq#:6; N Pos. 13,14

**VERIFICATION SUMMARY** DATE: 03/28/2005
PATENT APPLICATION: **US/09/990,046A** TIME: 09:11:51

Input Set : **A:\P1405R1C1.txt**
Output Set: **N:\CRF4\03282005\I990046A.raw**

L:10 M:270 C: Current Application Number differs, Replaced Current Application Number
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:446 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
M:341 Repeated in SeqNo=3
L:471 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:100
L:502 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0